

# An Introduction to digitalsocial.id



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"Reputation identity can fuel the internet's layer of trust to make humans interact more efficiently and with peace of mind. A future where humans can prove integrity is a future of trust."

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Today, humanity as a society is collaborating in its most advanced form – across borders, cultures and nationalities. Legal systems help us maintain order. Internet communication technology enables faster and more efficient ways of exchanging information. Data is growing at a faster rate than ever before. 90% of the world's data was created in the last two years. And every two years, the volume of data across the world doubles in size. An enormous chunk of this data is related to individuals and their digital self.

Boiling down human collaboration to its most crucial ingredient, you will arrive at trust. Trust alone enables successful cooperation. And in the midst of transitioning more and more into a digital world that is inhabited by an increasing number of humans, trust is becoming infinitely important.

We are now entering the Trustless Age – tech-enabled collaboration that lets humans live, work and interact with each other without the need for centralized trust providers. Until now, personal identifiable data was needed to verify and authenticate internet users. This data is stored and governed by corporations. Now, the next iteration of the internet – Web 3.0 – is adding a layer of ownership below the internet's core functionalities of sending and receiving data. This technically enables us to own our identity-related data in self-hosted digital wallets.

The current status quo of decentralized platforms is that every digital wallet and user gets treated the same by smart contracts. The functionality to distinguish wallets based on identity metrics does not exist yet. Businesses hence miss opportunities to create gated access or individual product offerings to distinguished wallets.



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DSID is a novel, user-centric identity management solution that enables people to build a measurable online reputation and leverage good behavior on the world wide web. Because digital wallets can own

reputation-bearing credentials, this solution helps to add a layer of trustworthiness to anonymous on-chain interactions.

By building several reputation pools consisting of an unlimited amount of integrations, DSID helps users to store any reputable action on the internet as part of their reputation pool score inside a crypto wallet.

DSID uses non-transferrable soulbound NFTs as verifiable credentials that store a dynamic reputation score. This enables users to leverage good deeds on the internet and enjoy individualized services instead of being just another, anonymous wallet. At all times, no personal identifiable data gets stored or even submitted to third parties.

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Decentralized applications and any other blockchain-based service providers that interact with wallets, have a way to query wallets for additional data points for better decision making.

Interoperable reputation scores can streamline onboarding for 'good' users, improving trust and safety across the internet.

### Status Quo: Competitive Landscape

The web3 identity and reputation market includes several companies. Close market participants include **Galxe** for achievement-based Web 3.0 reputation; **RabbitHole** for your CV stored in your wallet, or RociFi, as well as **Cred Protocol** for credit reputation. **Sismo.io** and **Disco.xyz** are also on a mission to enable self-hosted identity storage. Galxe is certainly one of the bigger ones. They have a total of >1k partners and >8M users as stated by their website. Their monthly website visits exceed 3M visitors. Galxe's product range includes OAT's (on-chain achievement tokens), the Galxe ID, Galxe NFT and Galxe Vote. While they all follow interesting approaches, current solutions mostly lack meaningful data sets since their credentials are based on mostly meaningless inputs. On top of that, standardization is crucial for having third parties accept an identity or even a score. DSID is focused on simplifying standardization by creating meaningful scores based on a diverse set of credentials.

Lastly, it remains unclear to what extent some competitors have developed a



sustainable business model that lays out fair incentives while producing significant revenues. DSID is subsidizing users completely while charging businesses for wallet queries. This is a scalable business model in favor of users.

### **The Identity & Reputation Market Map**



https://kermankohli.substack.com/p/mapping-the-identity-space



To have the most comprehensive idea of how much upside our market offers, we have to look at several market segments. This is due to intersections with all of those markets for a product such as DSID. Those segments include:

- **1.Decentralized Applications**
- 2. Digital Identity
- 3. Digital Wallets

Our main target market is decentralized applications which have a need for verification and authentication. Existing centralized apps depend on user authentication, which is relatively simple, given that a particular authority regulates and authenticates it. But dApps don't have a specific entity liable for doing KYC verification or anything that generates a similar level of trust, making it challenging to develop dApps. Due to this disadvantage, so far, growth of the dApp market has been restrained. Still, the dApps market size today is valued at over \$ 60 billion and is anticipated to grow at a CAGR of 56,1% (**source**). This market growth indicates also a growth in their need for verification. DSID is building a digital identity solution. Hence, it makes sense to look at the market for reusable identity as well. This market will reach a total addressable market of \$ 267 billion in a conservative scenario and grow at a CAGR of 68,9% (**source**).

Another interesting figure to assess is active wallets. As of January 2023, there are 219.86 million active Ethereum addresses (**source**) – this is only one blockchain with potential users.

### Multichain Nature

We believe everybody who uses the internet should be enabled to store reputation data in a self-hosted digital wallet - wherever the user decides to go. Therefore, DSID is following a multi-chain vision with a 3-phase implementation phase.

#### 1. Network Switch

In a first instance, using the DSID dApp, the user can connect digital wallets from different blockchains and we change the network accordingly. Reputation credentials will in that case be stored only on the ledger of the specific chain the user collected the credential from. This is, on a technical level, easy to realize but bears the downside of a fragmented identity across different chains.



In a next iteration, we want to be able to point identity data, collected across several blockchains and Web 2.0 platforms, to a designated wallet. This way, one can at least build a reputation in different environments and consolidate it in a master wallet. Still, the ability to use this reputation remains bound to a specific wallet and hence blockchain. Therefore, we are working on interoperable reputation scores.

#### 3. Interoperable reputation scores

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The last phase is bidirectionally binding together an Ethereum address with a Bitcoin address or any other address. The user can send a verifiable credential signed by the Ethereum address to someone else's address, that is a Bitcoin address or a Solana address. This way we can bind together different wallets and their reputation scores.

### Social Attestation Tokens (SATs)

### "Don't trust everything you see. Even salt looks like sugar."

- Unknown

We are using digital credentials in the form of non-fungible-tokens to a) build and b) verify a user's reputation score. These credentials are strictly nontransferrable and bound to a user's wallet. We are utilizing a technology commonly known as Soulbound Tokens in the crypto space and introduced by Vitalik Buterin and Glen Weyl back in the beginning of 2022.

SBTs or Soulbound Tokens are nontransferable and publicly visible tokens linked to the soul address. It helps in creating social identity through tokens to enable the services currently absent in the DeFi and broader Web 3.0 ecosystem such as undercollateralized lending or gated access to individualized services. DSID reputation scores are stored on SBTs that we call Social Attestation Tokens (SATs) and are saved inside the individual user's wallet. We are issuing SATs from selfhosted wallets and attest to their social relations. Once the token transfer is done, it will stick with the receiving wallet, the soul address, for its entire life span. There is no way to trade SATs on secondary markets as known with regular NFTs.





Technically, SATs are at the current stage ERC-721 tokens minted on the Polygon Blockchain. They represent various credentials to verify reputation of various DSID reputation pools. Our SATs are easily minted and free of costs, immutable and non-transferrable. Lastly, they are dynamically altered and continuously updated based on underlying data from their holder's reputation. A time constraint makes them expire after 30 days, which leads to accurate and trustworthy scores for third party providers that intent to use DSID reputation scores as gate keepers.

### **Reputation Pools**

Since there are many different ways of attaining reputation, DSID is structuring reputation inside different clusters or

"reputation pools". Each pool has a score and consists of various integrations and



data feeds from the same field. The first reputation pools are

- credit reputation,
- social reputation and
- professional reputation.

This approach has been chosen so that each score comes with implications that are much more meaningful than an overarching reputation score across different themes. Let's assume a DeFi lending and borrowing platform integrates DSID reputation scores to give out better lending terms. For this use case, the credit reputation pool has the most meaningful implications, while professional reputation might be fairly irrelevant.

Practically, one pool consists of at least 3 integration partners that users neet to connect to in terms of minting a reputation pool SAT.

In future, DSID can implement as many pools as desired by users. It highly depends on how vast the ecosystem will grow. It is not unrealistic to have more than ten different pools with hundreds of integrations each to provide holistic reputation scores for many different use cases.

### **Ecosystem and Scalability**

DSID relies heavily on a broad ecosystem of partners. We distinguish between two possible partners:

• Accrediting service providers and

• Verifying service providers The former are helping users build reputation by integrating with DSID, while the latter are using reputation scores and underlying data to assess a wallet's level of trustworthiness in a single snapshot. Accrediting service providers can either be curated ecosystem partners that integrate DSID or open platforms that allow data queries via open APIs like most web 2.0 social media platforms or web 3.0 protocols.

Verifying service providers can verify wallets based on their aggregated onchain reputation pool scores. This gives them the opportunity to treat positively scored wallets differently and hence incentivise reputable users joining their services. For detailed background checks on wallets, a verifying service provider can query the input data that DSID uses to compute the aggregated scores. This gives them another level of data accuracy.

The DSID ecosystem is likely to grow into thousands of integration partners over the years. On a technical level, the infrastructure is prepared to scale in this fashion and onboard millions of users. By following a multi-chain vision, DSID is also prepared to be blockchain agnostic and therefore cover all blockchain ecosystems.



DSID's aims to build a fully transparent and trustless credential layer for Polygon MVP. Technically speaking the main platform is called the DSID "hub" which is the platform for end-users, DSID partners and 3rd party protocols and entities to use our infrastructure and data services. Our credentials are built using on-chain and off-chain data. For on-chain data we will be creating subgraphs for which we will be using The Graph Protocol, which is a decentralized indexing and querying protocol for blockchain data. For off-chain data providers such as Twitter, Discord, Github etc.

The way we use subgraphs for on-chain data is described below with the aid of a diagram.





**1. Define the schema:** The first step is to define the data schema for our subgraph. This involves defining the data types, fields, and relationships between data entities that we want to index.

2. Write the mappings: After defining the schema, we need to write the mappings that specify how to extract data from the blockchain and index it according to the schema. We can write mappings in the GraphQL schema language or in the AssemblyScript programming language.

**3. Deploy the subgraph:** Once we have defined the schema and mappings, we can deploy the subgraph to The Graph network.

To do this, we will need to set up a

**1. subgraph deployment environment**, which includes configuring the necessary tools and services for building, testing, and deploying your subgraph.

**2. Test and refine:** After deploying your subgraph, we should test it thoroughly to ensure that it is indexing the data correctly and providing accurate query results. We may need to refine your schema and mappings based on feedback from testing.

**3. Publish and integrate:** Finally, we can publish our subgraph to The Graph registry and also make it available for other developers to use in their applications. We can also integrate our subgraph into DSID straightaway.







info@digitalsocial.id

### **DSID** Hub technical components

The DSID hub will consists of:

- User Dashboard: This will consist of all the SATs the user owns/have minted across different categories. THe categories predominantly being financial and social in respect to the MVP. Moreover, the dashboard will also contain some on-chain analytics for the user based on it's providers and activity
- Minting a new SAT: Minting a new SAT is a process that gets the user to connect to our service providers (on chain and off chain) where the off chain providers are connected via APIs while the on-chain ones through subgraphs



 Update SATs: Users can anytime come back to update the metadata of their soulbound score badges since their activity and metrics such as financial health could have improved by then.

#### Scores & Storage of data

The SAT scores are calculated using our proprietary aggregation algorithm which uniquely and accurately generates SAT

score for a given user for it's respective category taking into account their onchain and off-chain provider activity. We never store any user's precise score on chain. The precise score is only accessible to the user providing them with complete privacy. However, their SAT badge would indicate a letter grade indicating their credibility/score for the category under focus.



For example, if my score is A, this could mean my score is 650/800 or it could also mean my score is 800/800 there is no way to predict the scale and the metric of the score, which re-enforces our trustless vision for the platform. The data that is stored off-chain is lowlevel activity detail for each wallet which is provided to partners and B2B customers on demand.





### The development team

Simon Molitor is the CEO of DSID. His background is in sales and business development. He is a great fit for the company, since he combines a basic technical understanding with excellent business skills. During his studies at Frankfurt School of Finance he has built valuable contacts and learned management and problem-solving skills. He worked for two years in a venture capital fund and hence understands the needs of investors, which makes fundraising more efficient. DSID requires good business development abilities since most value is dependent on partnerships and ecosystem expansion.

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Pierre Stoll is taking care of all things marketing at DSID. He has led his own marketing agency for more than 4 years, which makes him not only a great entrepreneur but an even better marketer: he earned a renowned award in the industry for building marketing funnels that generated over 1M EUR in revenue for his clients.

Mohak Malhotra is the technical lead of the company. He has more than 5 years of experience as a software engineer and owns an additional business major in finance which makes him a good fit as a CTO. He won the ETH Lisbon Heckathon with a credit scoring protocol which shows his knowledge in our niche.



Contact

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